

REMARKS

Claims 1-15 were pending at the time of examination. Claims 1, 8, 10-11 and 13-15 have been amended. New claims 16-18 have been added. No new matter has been added. The applicant respectfully requests reconsideration based on the foregoing amendments and these remarks.

Claim Rejections – 35 U.S.C. § 103

Claims 1-15 were rejected under 35 U.S.C § 103(a) as being unpatentable over U.S. Patent No. 5,615,312 to Kohler (hereinafter "Kohler") in view of U.S. Patent No. 6,154,227 to Lund (hereinafter "Lund"). The applicant respectfully traverses these rejections.

Kohler is directed to a color management system having a business graphics rendering mode by which images are rendered "with a bright and vivid result." In particular, the overall color contrast of printed images is increased, while the achromatic contrast of the image is left essentially unaltered.

Lund is directed to an apparatus and method for printing compensation, and in particular to a printing system that adjusts to drop volume characteristics of pens installed within an associated printer. Each pen has a characteristic drop volume representing a typical volume of ink expelled by the pen in forming ink drops used to form output pixels. A printer driver receives print data for the printer indicating saturation values for the pixel data to be printed. Based on an expected pen drop volume, each saturation value maps to a corresponding number of ink drops for that value.

Claim 1 is directed to a print control apparatus that controls a printing unit, which applies multiple color inks on a printing medium to print a color image. Claim 1 specifically requires:

"a saturation enhancement module that converts the input color image data into image data expressed in a color system that can independently handle the saturation and, with regard to the predetermined range of hues of the image data, enhances the saturation of the image data in such a way that the gradation of saturation of the original image data is maintained;

That is, the gradation of the saturation of the original image is maintained in the image with the enhanced saturation. Various saturation enhancing functions, all of which depend linearly on the saturation S, have been exemplified on pages 30-31 of the specification. It is this linear dependency that allows the gradation of the saturation to be maintained in the image with enhanced saturation. As will be realized by those skilled in the art, this is an important feature,

in particular for images that have been created with some type of digital imaging equipment, such as a scanner or a digital camera. For these types of images, a user typically desires to maintain the same relations between the colors in the saturation enhanced image as in the original image.

Neither Kohler nor Lund show this feature. The cited sections of Kohler are directed to a "business graphics rendering process." Kohler exemplifies business graphics objects by "pie charts and bar graphs and the like" (Kohler, col. 1, line 67 – col. 2, line 1), and states that for business graphics objects, the "vividness of color – particularly fully saturated colors like the red, green, and blue colors... is more important than accurate color reproduction" (Kohler, col. 2, lines 1-4). This teaches away from the applicant's invention, in which an accurate color reproduction is one of the stated goals. Maintaining the gradation of the saturation is one of the necessary conditions for achieving accurate color reproduction. Kohler further discloses in col. 10, lines 20-35 how an exemplary cubic function is used to enhance the saturation. As a result of applying this function to the saturation, the saturation will be enhanced, but not "in such a way that the gradation of the saturation of the original image data is maintained," as required by claim 1.

In order to establish a *prima facie* case of obviousness, the Examiner must show how the combination of the Kohler and Lund references teaches or suggests all the claim limitations. Even if it were possible to combine Kohler and Lund, the combination still would not teach the limitation of "...enhancing the saturation of the image data in such a way that the gradation of saturation of the original image data is maintained," as neither of them is concerned with this aspect of image processing, and Kohler, in fact, teaches away from this, as described above. For at least these reasons, the rejection of claim 1 is unsupported by the art and should be withdrawn.

Independent claims 8, 10, 11, 13, 14 and 15 have been amended in similar ways to independent claim 1. Thus, for reasons substantially similar to those set forth above, the applicant respectfully contends that the rejection of independent claims 8, 10, 11, 13, 14 and 15 is unsupported by the cited art and should be withdrawn. Dependent claims 2-7, 9 and 12 all depend from one of the independent claims listed above and are thus neither anticipated nor rendered obvious for at least the reasons discussed above.

Claim Rejections – 35 U.S.C. § 101

Claims 13-14 were rejected under 35 U.S.C § 101 as being directed to non-statutory subject matter. The applicant has amended claims 13-14 to recite "a computer program product, stored on a machine readable medium" and "a computer," respectively. It is respectfully

submitted that claims 13-14 are directed to statutory subject matter and that the rejection under 35 U.S.C § 101 should be withdrawn.

Added claims

Claims 16-18 have been added to specify some additional features of the invention. Adequate support for these new claims can be found throughout the specification. No new matter has been added.

Conclusion

The applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP



Fredrik Mollborn
Reg. No. 48,587

P.O. Box 70250
Oakland, CA 94612-0250
(650) 961-8300